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(54) Title: METHODS FOR CHARACTERIZING SIGNALING PATHWAYS AND COMPOUNDS THAT INTERACT THERE-

(57) Abstract: The genes in a signaling pathway can be identified by over or under-expressing each member of a set of genes to be grouped in signaling pathways and measuring parameters under stimulatory conditions. Genes in a common signaling pathway give similar parameter profiles under such conditions. Moreover, the interactions between signaling pathways and the genes and gene products that mediate those interactions can be determined by measuring the response of those pathways to stimuli under conditions that reflect a complex cellular environment. The order in which genes and their products transmit signals through signaling pathways can be determined by assaying the effects of activators and inhibitors on those genes and gene products, and the mechanism of action of a compound of interest can be determined by comparing parameter profiles generated by the compound of interest to those generated with compounds of known mechanism of action.



### INTERNATIONAL SEARCH REPORT

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	JMENTS CONSIDERED TO BE RELEVANT	<del></del>			
Category *	Citation of document, with indication, where ap		Relevant to claim No.		
<b>X</b> .	WO 01/067103 A1 (Berg et al) 13 Sept. 2001 (13.09)	2001), entire publication.	1-10		
.,,	Greater at al. The Journal of Improved one 1997. Vo	1 159 page 367-274	1-10		
Y	Gopalan et al, The Journal of Immunology, 1997, Vo	11. 136, page 307-374.	1-10		
Y	Cesaris et al, Teh Journal of Biological Chemistry, C	ctober 1999, Vol. 274, No. 41, pages	1-10		
•	28978-82.				
Y	Kim et al, The Journal of Biological Chemistry, April 18 1993, Vol. 278 No. 16, pages		1-10		
	13847-54.				
Y	Brennan et al, The Journal of Biological Chemistry,	January 12, 2002, Vol. 276, No. 2,	1-10		
	pages 1195-1203.  Tsang et al. The Journal of Immunology, 1997, Vol. 159, pages 4566-4577.  1-10		1 10		
Y	Isang et al, The Journal of Immunology, 1997, Vol.	139, pages 4300-4377.	1-10		
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